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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,337	05/25/2001	Darren Chen	DE 2305.02 US	4860

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DISCOVISION ASSOCIATES  
INTELLECTUAL PROPERTY DEVELOPMENT  
2355 MAIN STREET, SUITE 200  
IRVINE, CA 92614

EXAMINER
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LAVARIAS, ARNEL C

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/866,337

Applicant(s)

CHEN, DARREN

Examiner

Arnel C. Lavarias

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings were received on 10/30/03 in Paper No. 15. These drawings are not acceptable.

2. The drawings are objected to because of the following informalities:

Figure 9- the figure labels ' $n_2=1.5$ ' and ' $n_3=1.5$ ' should have arrows pointing to their respective layers.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Response to Arguments*

3. The Examiner notes that rejections, reference numerals, and figures in Section 10 of Paper No. 12, dated 7/31/03, refer to the Goldsmith et al. reference (U.S. Patent No. 5113387), and not to the Vincent et al. reference. Similarly, the rejections, reference numerals, and figures in Section 11 of Paper No. 12, dated 7/31/03, also refer to the Goldsmith et al. reference (U.S. Patent No. 5113387), and not to the Vincent et al. reference.
4. Applicant's arguments filed 10/30/03 in Paper No. 15 have been fully considered but they are not persuasive. The Applicant argues that, with respect to Claims 1, 3-14, 16-17, Goldsmith et al. fails to teach or reasonably suggest an optical device including optical

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coating planes. The Examiner respectfully disagrees. The Applicant has failed to provide any concrete evidence to show why it would be non-obvious for the reflecting optical surfaces of the beam splitting elements (i.e. 100, 102, 104, and even elements 106 and 108 in Figure 4) of Goldsmith et al. to specifically be optical coating planes. It is extremely well known in the art that the optical reflecting surfaces of such beam splitters be produced from optical coatings, e.g. thin layer of silver, aluminum, or gold; a multilayer thin film of alternating high and low refractive materials; thin birefringent films; etc. Further, it is also known in the art to combine such beam splitting elements 100, 102, 104 into a single component, as has already been demonstrated in the previously cited Vincent et al. (U.S. Patent No. 4870268) reference.

5. Claims 1, 3-17 are rejected as follows.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3-14, 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldsmith et al. (U.S. Patent No. 5113387), of record, in view of Vincent et al. (4870268), of record.

With regard to Claims 1, 3-13, and 17, Goldsmith et al. discloses an optical device and method used in an optical read/write head comprising a first optical plane (See 104 of

Figure 4) and a second optical plane (See 102 of Figure 4) for respectively reflecting a first light (See beam emitted from 54 in Figure 4) and a second light (See beam emitted from 52 in Figure 4) to an identical optical axis (See combined beam reflecting off of 104 and 102 and directed to 124 in Figure 4). Goldsmith et al. also discloses the first light and second light being a laser beam (See col. 7, lines 38-43). Goldsmith et al. also discloses the first optical plane being parallel to the second optical plane (See 104 and 102 of Figure 4). Goldsmith et al. also discloses the first light and the second light being generated at different timing (See col. 11, line 3-col. 12, line 55). Goldsmith et al. also discloses the first light being directly reflected to the optical axis by the first optical plane (See 104 in Figure 4), and the second light passing through the first optical coating plane and being reflected by the second optical coating plane (See 102 in Figure 4). Goldsmith et al. also discloses the first optical plane (See 104 in Figure 4) and second optical plane (See 102 in Figure 4) being respectively coated on two opposite sides of a first light-penetrable material (See optical element between reflecting surfaces of 104 and 102 in Figure 4). Goldsmith et al. also discloses a second light-penetrable material (See optical element between reflecting surfaces of 102 and 100 in Figure 4) for reflecting a third light (See light beam emitted from 50 in Figure 4) to the optical axis. Goldsmith et al. discloses a third optical plane (See 100 in Figure 4) being coated on the second light-penetrable material (See optical element between reflecting surfaces of 102 and 100 in Figure 4), and the third light passing through the first optical plane (See 104 in Figure 4) and the second optical plane (See 102 in Figure 4) and then being reflected to the optical axis by the third optical plane (See 100 in Figure 4). Goldsmith et al. also discloses an

optical device used in an optical read/write head comprising plural optical coating planes (See 100, 102, 104 in Figure 4) for reflecting plural laser beams (See 50, 52, 54 in Figure 4) to an identical optical axis (See combined beam reflecting off of 104, 102, and 100 and directed to 124 in Figure 4). Goldsmith et al. also discloses an optical device comprising a first optical plane (See 104 in Figure 4) and a second optical plane (See 178 in Figure 4) coated on two opposite sides of a light-penetrable material (See optical element between reflecting surfaces of 104 and 102 in Figure 4) for reflecting a first light (See 54 in Figure 4) and a second light (See 52 in Figure 4) to an identical optical axis (See combined beam reflecting off of 104, 102 and directed to 124 in Figure 4). Goldsmith et al. also discloses a second light-penetrable material (See optical element between reflecting surfaces of 102 and 100 in Figure 4) for reflecting a third light (See 50 in Figure 4) to said optical axis. Goldsmith et al. also discloses an optical component (See 100, 102, 104, 106, 108 in Figure 4) comprising a plurality of optical planes for reflecting a plurality of light beams to an identical axis; and a mirror (See 124 in Figure 4) configured to direct any one of the light beams oriented at the identical optical axis to the surface of an optical disc (See 10 in Figure 4). Goldsmith et al. lacks the first, second, and third reflecting optical planes of the beam splitting elements (i.e. 100, 102, 104) being optical coating planes. It is well known in the art of optical thin films to utilize thin metal films, multilayer dielectric thin film coatings, or other such optical films and coatings, as highly reflective coatings to reflect light over a band of wavelengths. Further, Vincent et al. teaches trichromatic beamsplitters for use in combining several beams of light and separating a single beam of light into several beams (See for example Figure 20;

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Abstract; col. 15, line 31-col. 16, line 5). In particular, Vincent et al. teaches that such the optical reflecting surfaces of such beam splitters may be fabricated from dichroic optical coatings (See col. 6, lines 19-68). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the first, second, and third reflecting optical planes of the beam splitters of Goldsmith et al. be fabricated from, for example, multilayer dielectric thin film coatings to take advantage of the high reflectivities and low transmissivities over the band of wavelengths, as well as take advantage of mature, well-known, and inexpensive thin film deposition techniques for producing such multilayer dielectric thin film coatings.

Further, with respect to Claims 14 and 16, Goldsmith et al. in view of Vincent et al. discloses the invention as set forth above, except for the beam splitters (and their associated reflecting optical planes) being integrated into a single component. However, Vincent et al. teaches trichromatic beamsplitters for use in combining several beams of light and separating a single beam of light into several beams (See for example Figure 20; Abstract; col. 15, line 31-col. 16, line 5). In particular, Vincent et al. teaches that such the optical reflecting surfaces of such beam splitters may be fabricated from dichroic optical coatings (See col. 6, lines 19-68) and integrated into a single component (See 170 in Figure 20 for example). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the beam splitters (and their associated reflecting optical planes) of Goldsmith et al. in view of Vincent et al. be integrated into a single component, as taught by Vincent et al., for the purpose of

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reducing cost and size of the component, as well as reduce the complexity of manufacturing such devices.

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goldsmith et al. in view of Vincent et al. as applied to Claim 14 above, and further in view of Fukakusa et al. (U.S. Patent No. 6256283), of record.

Goldsmith et al. in view of Vincent et al. discloses the invention as set forth above, except for a plurality of light sources combined together in the same pack wherein the plurality of light beams are produced, respectively, from the plurality of light sources. However, Fukakusa et al. teaches an optical pickup device (See for example Figures 1 and 7) wherein multiple light sources, such as laser diodes (See 2, 9 in Figures 1 and 7) are provided in the same package (See Figure 7). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the plurality of light beams of Goldsmith et al. in view of Vincent et al. be produced from a plurality of light sources combined together in the same pack, as taught by Fukakusa et al., for the purpose of reducing the size and weight of the overall optical pickup head.

### *Conclusion*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 703-305-4007. The examiner can normally be reached on M-F 8:30 AM - 5 PM EST. **Please note that after January 20, 2004, the examiner may be reached at the new telephone number: 571-272-2315.**



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 703-305-0024. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.



Arnel C. Lavarias  
12/19/03

